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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/020,652	12/13/2001	Taeyoun Kwon	671-10 (P9936)	2016

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Paul J. Farrell, Esq.
DILWORTH & BARRESE, LLP
333 Earle Ovington Blvd.
Uniondale, NY 11553

EXAMINER

BHATTACHARYA, SAM

ART UNIT	PAPER NUMBER
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2685

DATE MAILED: 08/12/2004

2

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/020,652

Applicant(s)

KWON, TAEYOUN

Examiner

Sam Bhattacharya

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-3,5,11-13 and 15 is/are rejected.
- 7) ☒ Claim(s) 4,6-10,14 and 16-20 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 December 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the ROM included in the ASIC 215 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1, 2, 11 and 12 are rejected under 35 U.S.C. 102(e) as being anticipated by Costello et al. (US 6,754,894).

Regarding claims 1 and 11, Costello et al. discloses a mobile communication device that includes an analog circuit 502 for air interfacing the mobile communication device, a user interface circuit (indicated as a "display device") for interfacing between the mobile communication device and a user, a microprocessor 504 for providing overall control of the operation of the mobile device, and a memory device including a flash memory 512 for storing program data and user data, a first memory 508 for copying the program data of the flash memory, and a second memory 510 for executing the program data of the first memory, wherein the first and second memories are independent memories. Moreover, it is inherent to the device of Costello et al. to include an interface circuit for interfacing the flash memory to the microprocessor. See FIG. 5, col. 6, lines 5-22, lines 44-67, and col. 7, lines 24-34.

Regarding claims 2 and 12, Costello et al. discloses a flash memory that is a NAND-type flash memory. See col. 6, line 32.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3, 5, 13 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Costello et al. in view of Niiyama et al. (US 5,400,389).

Regarding claims 3 and 13, Costello et al. discloses that the first memory 508 and the second memory 510 are NOR flash and RAM memories, respectively. However, Costello et al. fails to disclose both first and second memories that are RAM memories.

Niiyama et al. discloses a mobile communication device that includes a microprocessor 501, a ROM 502 (which can be a flash ROM), and first and second RAMs 503 and 504. The microprocessor controls the operations of the RAMs according to an operation program stored in the flash ROM. See FIG. 4 and col. 5, line 62 - col. 6, line 29. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the mobile communication device of Costello et al. by using first and second RAM memories as taught by Niiyama et al. to attain faster speeds of access and execution for data and programs stored in the memories.

Regarding claims 5 and 15, Niiyama et al. discloses mobile communication device that includes an interface circuit 506 that generates a chip enable signal enabling the flash ROM 502. See col. 6, lines 11-18. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the mobile communication device of Costello et al. by sending

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a chip enable signal from the interface circuit to the flash memory as taught by Niiyama et al. to activate the flash memory in association with an address supplied from the microprocessor.

Allowable Subject Matter

5. Claims 4, 6-10, 14 and 16-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. The following is a statement of reasons for the indication of allowable subject matter: the prior art of record fails to disclose a combination of elements in a memory device, including an interface circuit between a flash memory and a microprocessor, wherein the interface circuit is an ASIC having a ROM for storing program codes and an error correction circuit, as set forth in claims 4 and 14; a combination of elements in a memory device, including an interface circuit having a logic gate for generating a command latch enable signal informing the flash memory that incoming data is a command, as set forth in claims 6 and 16; a combination of elements in a memory device, including an interface circuit having a first logic gate that is an OR gate for receiving chip select and chip enable signals from a microprocessor to generate a NAND CE signal, as set forth in claims 8 and 18.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Tsai (US 6,009,496) discloses a microcontroller having an latch buffer between a microprocessor and a flash memory, the latch buffer latching a flash request signal in response to a latch enable signal from the microprocessor.

Knuutila et al. (US 6,131,040) discloses a mobile device including a processor that controls an EEPROM, a flash memory and a RAM memory.


Fukuzumi (US Patent Publication No. 2002/0052217 A1) discloses a mobile phone that includes a flash memory that stores user data and firmware, and first and second buffers that are RAM memories.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sam Bhattacharya whose telephone number is (703) 605-1171. The examiner can normally be reached on 8:30 a.m. to 5:00 p.m., Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward F. Urban can be reached on (703) 305-4385. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

sb



Sam Bhattacharya
Examiner
Art Unit 2685
Patent and Trademark Office
U.S. Department of Commerce